



# **DH & CAF: status & plans**

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**Winter03 --- some numbers**

**Summer03 --- what to expect**

**Preparations for summer03**



# Supported functionality

## Winter 03:

depend on CAF1, CAF2 & static file servers  
not all CAF CPUs have equal access to data  
optionally use dCache

## Summer 03:

depend on CAF & dCache  
all CAF CPUs have equal access to data  
(no more jungle of instructions)  
static files on disk served by dCache  
(static file servers only under duress)  
optionally SAM & JIM = CDF grid



# Performance Winter 03

|                  | Static files | rest    |
|------------------|--------------|---------|
| # of CPUs:       | 326          | 268     |
| CPU utilization: | ~80%         | ~50%    |
| I/O into exe:    | ~170MB/s     | ~40MB/s |

**Expect ~30% CPU increase for summer**

|                |  |
|----------------|--|
| event sizes:   | 80-345kB (hbot0h vs gjet08)                  |
| event rate:    | ~3Hz (Bs analysis on hbot0h with retracking) |
| total dataset: | 26TB/50TB/270TB static/physics/total         |

**Resource usage only poorly understood**



# **Preparations for summer**

- **Hardware & OS upgrade on fs**
  - 76 fileservers require disk firmware upgrade
  - 91 fileservers require OS upgrade
  - Repeat study of bit errors after upgrades
- **CAF**
  - Upgrade of system software for scalability
  - Work on monitoring
- **Dcache**
  - Upgrade admin hardware
  - Operations under large load
  - Work on monitoring
- **Organize phys grps (e.g. MC prod.)**

**Start extensive upgrades asap!**



# **Schedule & Downtimes**

## ➤ **Static fs CAF2**

- Copy static fs to upgraded disks by Monday
- Swap disks early next week: ~1-2hour downtime
- University fs, icafe, physics grp: 30min interruption per fs

## ➤ **CAF**

- No downtime until after APS
- After APS 1-2 days downtime for hardware upgrade

## ➤ **Dcache**

- Decreased performance early next week
- Likely downtime (1-2days) next Thursday

## ➤ **Not yet firmly scheduled**

- Merge CAF1 & CAF2
- Eliminate CAF1 static fs
- Eliminate CAF2 static fs



# Conclusions

- **Winter 03 wasn't our idea of a good time.**
- **Nevertheless, performance remarkable.**
- **For Summer 03:**
  - **fix problems**
  - **Improve ease of use**
  - **More efficient use of resources**
  - **=> Use system as designed**
  - **Allow user to play with CDF grid**